Scan-to-BIM Technologies Training Course

Professional Development Training Course Outline

Category	Architectural Engineering	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Scan-to-BIM Technologies Training Course is designed to equip learners with advanced skills in 3D laser scanning, point cloud processing, and BIM (Building Information Modeling) integration. As the construction and AEC (Architecture, Engineering, and Construction) industry rapidly shifts toward digital twin technology, reality capture, and automated modeling workflows, Scan-to-BIM has become a critical competency for modern professionals. This course bridges the gap between real-world physical assets and intelligent digital models, enabling accurate as-built documentation and data-driven decision-making.

With the rise of LiDAR scanning, drone photogrammetry, AI-driven modeling, and cloud-based BIM platforms, organizations are increasingly adopting Scan-to-BIM workflows for renovation, retrofitting, facility management, and infrastructure maintenance. This training provides hands-on exposure to industry-standard tools such as Revit, Navisworks, Recap, and FARO Scene, empowering participants to deliver high-precision BIM deliverables aligned with global AEC standards.

Programme Curriculum

Scan-to-BIM Technologies Training Course

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Course Duration

5 days

Course Objectives

1. Master 3D Laser Scanning workflows for AEC projects
2. Understand Point Cloud registration, cleaning, and optimization
3. Develop expertise in Scan-to-BIM modeling using Autodesk Revit
4. Apply Reality Capture technologies for as-built documentation
5. Integrate Digital Twin concepts into BIM environments
6. Perform Point Cloud segmentation and feature extraction
7. Utilize LiDAR and Photogrammetry data for modeling
8. Implement Clash detection using BIM coordination tools
9. Optimize workflows using Cloud-based BIM collaboration platforms
10. Enhance accuracy through AI-assisted Scan-to-BIM automation
11. Generate LOD (Level of Development) BIM models from scans
12. Support Facility Management using BIM as-built models
13. Deliver Industry-ready Scan-to-BIM project outputs

Target Audience

- BIM Engineers and Modelers
- Civil Engineers and Architects
- Surveying and Geomatics Professionals
- Construction Project Managers
- Infrastructure and Highway Engineers
- Facility Management Professionals
- CAD Technicians transitioning to BIM
- AEC Students and Research Scholars

Course Modules

Module 1: Introduction to Scan-to-BIM Ecosystem

- Fundamentals of BIM and Reality Capture
- Overview of Laser Scanning Technologies
- Industry applications in AEC sector
- Scan-to-BIM workflow lifecycle
- Software and hardware ecosystem overview
- **Case Study:** Digital documentation of a commercial office building using laser scanning.

Module 2: 3D Laser Scanning & Data Acquisition

- Terrestrial Laser Scanning (TLS) principles
- LiDAR and drone-based scanning techniques

- Field data collection best practices
- Scan planning and execution strategies
- Data accuracy and resolution control
- **Case Study:** Highway bridge scanning for structural assessment.

Module 3: Point Cloud Processing

- Importing and managing point cloud data
- Noise removal and filtering techniques
- Registration and alignment methods
- Segmentation and classification
- Optimization for BIM conversion
- **Case Study:** Processing industrial plant scan data for retrofit design.

Module 4: Scan-to-BIM Modeling in Revit

- Point cloud integration into Revit
- Creating parametric BIM elements
- As-built modeling techniques
- LOD development strategies
- Model validation and correction
- **Case Study:** Hospital facility conversion from scan data to BIM model.

Module 5: Reality Capture & Digital Twin Creation

- Introduction to Digital Twin technology
- Linking real-time data with BIM models
- IoT integration with BIM systems
- Visualization and simulation tools
- Asset lifecycle management
- **Case Study:** Smart campus digital twin for energy monitoring.

Module 6: Clash Detection & BIM Coordination

- Navisworks coordination workflows
- Clash identification techniques
- Multi-disciplinary model integration
- Issue tracking and resolution
- Coordination reporting systems
- **Case Study:** High-rise residential project coordination analysis.

Module 7: Advanced Automation & AI in Scan-to-BIM

- AI-based point cloud recognition
- Automated object extraction tools
- Machine learning in BIM workflows
- Cloud processing platforms
- Future trends in automation
- **Case Study:** AI-assisted modeling of industrial warehouse structure.

Module 8: Project Delivery & Facility Management

- BIM deliverable standards
- As-built documentation workflows
- Facility management integration
- Asset tagging and database linking
- Handover and lifecycle BIM usage
- **Case Study:** Airport terminal BIM-based facility management system.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com